SANTA CRUZ BIOTECHNOLOGY, INC.

Rad55 (yK-14): sc-27181

BACKGROUND

The process of homologous recombination is a major DNA repair pathway that operates on DNA double-strand breaks to promote error-free repair. Central to the process of homologous recombination are the RAD52 group genes (RAD50, RAD51, RAD52, RAD54, RDH54/TID1, RAD55, RAD57, RAD59, MRE11, and XRS2), most of which were identified by their requirement for the repair of ionizing-radiation-induced DNA damage in *Saccharomyces cerevisiae*. The *Saccharomyces cerevisiae* RAD51, RAD55, and RAD57 genes, required for genetic recombination and DNA double-strand-break repair, encode proteins homologous to one another and to the Escherichia coli RecA protein (sung97). The RAD55 and RAD57 encoded products exist as a stable heterodimer.

REFERENCES

1. Lovett, S.T., et al. 1994. Sequence of the RAD55 gene of *Saccharomyces cerevisiae*: similarity of RAD55 to prokaryotic RecA and other RecA-like proteins. Gene 142: 103-106.
2. Hays, S.L., et al. 1995. Complex formation in yeast double-strand break repair: participation of Rad51, Rad52, Rad55, and Rad57 proteins. Proc. Natl. Acad. Sci. U.S.A 92: 6925-6929.
3. Johnson, R.D., et al. 1995. Functional differences and interactions among the putative RecA homologs Rad51, Rad55, and Rad57. Mol. Cell. Biol 15: 4843-4850.
4. Sung, P. 1997. Yeast Rad55 and Rad57 proteins form a heterodimer that functions with replication protein A to promote DNA strand exchange by Rad51 recombinase. Genes Dev. 11: 1111-1121.
5. Bashkirov, V.I., et al. 2000. DNA repair protein Rad55 is a terminal substrate of the DNA damage checkpoints. Mol. Cell. Biol 20: 4393-4404.
6. Symington, L.S. 2002. Role of RAD52 epistasis group genes in homologous recombination and double-strand break repair. Microbiol. Mol. Biol. Rev. 66: 630-670.
7. Sugawara, N., et al. 2003. *In vivo* roles of Rad52, Rad54, and Rad55 proteins in Rad51-mediated recombination. Mol. Cell 12: 209-219.
8. SWISS-PROT/TrEMBL (P38953). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

Rad55 (yK-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rad55 of *Saccharomyces cerevisiae* origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27181 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rad55 (yK-14) is recommended for detection of Rad55 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

RESEARCH USE

For research use only, not for use in diagnostic procedures.